

The cause of this is mentioned in the introductory remarks—namely, that the author has become a resident in Bengal. We may add that he is a fellow of Queen's College at Cambridge, and has now charge of a large educational institution in India. He had occupied himself for several years before leaving England in the examination of the flora of Andover during such parts of the summer as he could be there, and has done well to print the results of his researches. He justly remarks that "a list of this kind can never be complete," and he therefore less regrets the incompleteness of the present. It is a valuable contribution to a knowledge of the distribution of our native plants. The author is a man of great ability and much originality: he has therefore occasionally made remarks which may not be quite palatable to some other botanists. They always well deserve attention, although we are sometimes far from altogether agreeing with the author. We would especially direct attention to the observations upon "geographical distribution," on pages 10–14. They deserve the notice of all who occupy themselves with that interesting study.

Under *Rubus* is the remark:—"I admit that universal botanists are not bound to get up the *Rubi*; but if they only describe *R. fruticosus* and *R. cæsius*, they should define those 'species' so as to collect the allied forms as well as possible; and they must not suppose that by making two species only they avoid all difficulty. So far is that from being the case, that it is as difficult at the least to separate the *Cæsii* and *Fruticosi* as it is to separate *R. leucostachys* from *R. discolor*. For instance, Dr. Bromfield, a skilful rubologist, considered *R. corylifolius* to belong to the *Fruticosi*, laying stress on its fruit; whilst most other rubologists consider it to be one of the *Cæsii*. If, therefore, rubologists are not always able to separate absolutely their 'species,' they are not therefore to be taunted as triflers by those who define their two species *R. fruticosus* and *R. cæsius* in such a way that, in the case of great masses of *Rubi*, nobody can decide under which section they are to be placed."

But we must proceed, after simply adding that the List records the localities and frequency of 667 species of flowering plants and ferns—not a bad catalogue for a small district of less than ten miles' radius.

The 'Flora of Devon and Cornwall' is the first instalment of a complete flora of these interesting counties. Such a flora is very much wanted, as we possess no satisfactory account of the plants of the south-west of England. Mr. Keys is well qualified for the work that he has undertaken; and we hope that he will be able to proceed successfully and quickly with it.

He makes only two "districts," namely the counties of Devon and Cornwall. We think that it would have been well, considering how much the different parts of these counties differ from each other, if he had followed the example of most of the modern local floras, and divided each of the counties into several local districts. The work which he has undertaken seems to be performed well and carefully.

Mr. Jenyns's Lecture is intended to show what has been done in

the elucidation and completion of the flora of Bath since the publication (in 1839) of the 'Supplement to the Flora Bathoniensis.' He points out the errors to be found in that book, and corrects them, and adds a considerable number of species to the list.

Unfortunately, we cannot greatly praise Mr. Trimmer's 'Flora of Norfolk.' As a list of plants *found in the county*, it is doubtless very correct; but as a flora of the county it is very imperfect. There is no attempt to show the distribution of the plants by local divisions. It is an old-fashioned flora, such as might have been published fifty years since, except that its nomenclature and the view taken of species are those of the present day. Whole districts of the county seem not to have been examined, or only in a very superficial manner. If the author had made known his intention of publishing a flora of the county, we know that he might have obtained lists of plants for some of these neglected tracts. Let us hope that a new edition will supply the wants of this one.

#### MISCELLANEOUS.

*On the actual state of our information relative to the 'Leporide,' or Hybrid between Hare and Rabbit.* By Dr. PIGEAUX.

ARE there any sexual relations between the hare and rabbit in a state of nature to which it would be possible to attribute the creation of a mixed or intermediate species, to be named, on account of external configuration, *Leporide*? The ancients, and indeed some of the moderns, deceived by the colours and special forms of certain varieties of rabbits common in the south of Europe and very abundant in Asia Minor, have believed this to be the case. Such varieties are found in some departments of the east of France and along the banks of the Rhône. These are, after all, merely rabbits which burrow, and are born without fur and with the eyes closed. Such are the *Léporides* of M. Roux, and those also which have been and are perhaps still called 'Leporides' at the Jardin d'Acclimatation in Paris. These rabbits pair voluntarily, and are productive either amongst themselves or in conjunction with the ordinary domestic rabbit. I have had in my possession some of them which, from their appearance, might almost have been mistaken for hares, having the tip of the ears black and the inferior surface of the belly and of the thighs tawny; nevertheless, by all characters distinctive of the species, they were never anything but rabbits. Thus I am able to negative the pretensions of M. Roux to having created a race of fertile hybrids begotten through a male hare and several female rabbits.

It is, however, by no means difficult to bring about a connexion between the hare and rabbit in a state of domestication; but for success we must not persist in uniting adult individuals unaccustomed to living together previously. In such a case the female nearly always kills the male, bleeding him at the jugular, or, unless the hutch be very securely fastened, succeeds in dislodging him.

This will occur indeed sometimes when a young male leveret has been brought up with young female rabbits, as soon as they become adult, if the cage be too constrained in its dimensions. In order that the experiment may succeed, it is necessary to provide a cage of a certain extent, say of some metres, barred in some portions and pannelled in others, so that the animals may escape observation at pleasure. It is well also to leave several females with the young male, in order that he may have some range for choice. Such measures were adopted by M. —, of Nanterre, near Paris, whose success has been as complete as it is perfectly attested and indubitable. Several female rabbits were rendered pregnant by the agency of a single male hare existing in his menagerie; he has further been able to rear to the adult state a number of the *mongrels* or, rather, *mules* so obtained between the two species. There were both males and females, apparently strong and well developed; and these paired, but have not been productive, as far as I know, hitherto. I would not deny to these mongrels a fecundity similar in degree to that which is sometimes found in the cross between ass and mare; but such a case is only exceptional, and we can neither fear nor indeed hope to create a new race: so that from this point of view the *Leporides* do not exist.

The instance cited by M. Albert Geoffroy Saint-Hilaire, in which a female hare covered by a male rabbit gave birth to a young already covered with fur, and having the eyes open, is a most remarkable one; it could, however, be merely a case of a cross retaining the form of the mother, and no more fertile than in the case of those hybrids between the Ass and the horse in which the latter animal (the male) gives the predominant character to the offspring.

These experiments may be repeated and varied, proceeding with very young animals brought up together and enjoying a certain liberty, although confined in the hutch. It is of especial importance, in breeding with the male hare, to provide several females, whether of rabbit or of hare, always, however, isolating them as soon as they are ready to bring forth (in twenty-eight or thirty days). That the hare, when in good condition, will produce several times a year admits of no doubt; but as she does not burrow, it is necessary to furnish her with a sufficient quantity of twigs, and to keep them extremely fresh and clean. Although in captivity the hare usually produces only one or two young, she has been known to bring forth three, and to rear them with great tenderness; it is, however, necessary to remove them early from the male, and even from the female, who will often strangle them as soon as they are capable of living independently, especially if they are about pairing again.

The rearing of hares in captivity is but a thankless task, as they do not live long, wanting a sufficient space for running; their flesh, also, is insipid, unless, indeed, they are let loose some months previously in an area perfectly free from rabbits; for between these two species there rages a most inveterate war; and a single rabbit would with ease strangle fifty hares in one night. The female, also, is not very productive, and ceases to bear after the third year.